

## Claims

What is claimed is:

1. A relay server comprising:  
communicating means capable of communicating with a plurality of network devices and a different relay server; and  
connection information holding means for holding connection information of the network devices capable of communicating by the communicating means;  
wherein the communicating means refers to the connection information based on a connection demand from one of the network devices, and relays communication to another of the network devices via the different relay server when necessary.
2. A relay server according to claim 1 wherein the communicating means receives the connection information the different relay server holds and stores the connection information in the connection information holding means.
3. A communication system comprising:  
a plurality of network devices; and  
a plurality of relay servers connected to the plurality of network devices by a network,  
wherein one of the network devices establishes a communication path with one of the relay servers and carries out communication by performing a connection demand with another of the network devices, and  
the one of relay servers relays the communication with the another of the network devices via another of the relay servers when necessary based on the connection demand from the one of the network devices.
4. A communication system according to claim 3 wherein each of the relay servers obtains connection information of ones of the network devices, said ones are connected to and capable of communicating with the each of the relay servers, and the each of the relay servers decides which relay server communication is relayed to.

5. A relay server comprising:

communicating means capable of communicating with a plurality of network devices and a different relay server; and

connection information holding means for holding connection information of the network devices which are capable of communicating,

wherein the communicating means renews the connection information based on a demand from one of the network devices, and notifies the renewed connection information to the different relay server based on renewal of the connection information.

6. A relay server comprising:

communicating means capable of communicating with a plurality of network devices and a different relay server; and

connection information holding means for holding connection information of the network devices which are capable of communicating,

wherein the communicating means renews the connection information within the connection information holding means based on renewal notification of connection information from the different relay server.

7. A communication system comprising:

a plurality of network devices; and

a plurality of relay servers connected to the plurality of network devices by a network,

wherein one of the network devices establishes a communication path with one of the relay servers and carries out communication by performing a connection demand with another of the network devices, and

the one of the relay servers holds connection information of the network devices which are capable of communicating, renews the connection information based on the connection demand, notifies the renewed connection information to different ones of the relay servers, and renews the connection information based on renewal notification of connection information transmitted from the different ones of the relay servers.

8. A communication system comprising:  
a plurality of network devices; and  
a plurality of relay servers connected to the plurality of network devices by a network; and  
a data base server for holding connection information of the network devices and providing the connection information to the relay servers,  
wherein one of the network devices establishes a communication path with one of the relay servers, and carries out communication by performing a connection demand with another of the network devices, and  
when the one of the relay servers renews the connection information based on the connection demand from the one of the network devices, the one of the relay servers causes the data base server to hold the renewed connection information.

9. A facsimile system comprising:  
a facsimile machine connected to an inner network;  
a gateway device for connecting the inner network to an outer network; and  
a plurality of relay servers connected to the outer network,  
wherein the facsimile machine makes connection to one of the relay servers in advance via the gateway device, and then transmits or receives an image, and  
the one of the relay servers relays communication or the image between the gateway device and another gateway device by carrying out the communication with one or a plurality of the gateway devices and one or a plurality of different relay servers.

10. A facsimile system according to claim 9 wherein the one of the relay servers manages the facsimile machine to be connected thereto in accordance with identifying information specific to the facsimile machine.

11. A facsimile system according to claim 9 wherein a plurality of facsimile machines within the inner network and another inner network can be connected to the one of the relay servers via the gateway device and the another gateway device, and the one of the relay servers manages each of the plurality of facsimile machines to be connected thereto in accordance with identifying information specific to each of the plurality of facsimile machines.